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*           W E L C O M E   T O   T H E
*           U . S .   P A T E N T   T E X T   F I L E
* * * * *

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=> s print###(5a)status
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230034 PRINT###
69925 STATUS
1748 STATUSES
70172 STATUS
      (STATUS OR STATUSES)
L1    1539 PRINT###(5A) STATUS

=> s bidirection## or bi(2a)direction##
      23153 BIDIRECTION##
      50902 BI
      108936 BIS
      155383 BI
      (BI OR BIS)
      1064334 DIRECTION##
      13493 BI(2A)DIRECTION##
L2    33912 BIDIRECTION## OR BI(2A)DIRECTION##

=> s l2(8a)print###
      230034 PRINT###
L3    661 L2(8A)PRINT###

=> s l1 and l3
L4    116 L1 AND L3

=> s scan#### or read###
      171895 SCAN####
      1088043 READ###
L5    1141988 SCAN#### OR READ###

=> s l4 and l5
L6    108 L4 AND L5

=> s computer or pc or host
      191357 COMPUTER
      47597 COMPUTERS
      203407 COMPUTER
      (COMPUTER OR COMPUTERS)
      29604 PC
      2626 PCS
      31022 PC
      (PC OR PCS)
      55183 HOST
      7525 HOSTS
      56218 HOST
      (HOST OR HOSTS)
L7    254200 COMPUTER OR PC OR HOST

=> s l6 and l7
L8    100 L6 AND L7

=> d his

      (FILE 'USPAT' ENTERED AT 14:55:38 ON 02 FEB 1998)
      SET PAGE SCROLL
L1    1539 S PRINT###(5A) STATUS
L2    33912 S BIDIRECTION## OR BI(2A)DIRECTION##
L3    661 S L2(8A)PRINT###
L4    116 S L1 AND L3
L5    1141988 S SCAN#### OR READ###
L6    108 S L4 AND L5
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L7 254200 S COMPUTER OR PC OR HOST  
L8 100 S L6 AND L7

=> s 15(5a)status  
69925 STATUS  
1748 STATUSES  
70172 STATUS  
(STATUS OR STATUSES)  
L9 8058 L5(5A)STATUS

=> s 18 and 19  
L10 55 L8 AND L9

=> d 110 1-55

1. 5,701,411, Dec. 23, 1997, Automatic detection of network hardware connection; Duc Tran, et al., 395/828 [IMAGE AVAILABLE]
2. 5,699,494, Dec. 16, 1997, Remote replication of printer operator panel; Carl Lee Colbert, et al., 395/114, 112, 113 [IMAGE AVAILABLE]
3. 5,696,899, Dec. 9, 1997, Method and apparatus for adaptively determining the format of data packets carried on a local area network; George A. Kalwitz, 370/254, 465, 466, 467, 469, 908; 395/828, 835 [IMAGE AVAILABLE]
4. 5,694,618, Dec. 2, 1997, Apparatus which transmits a check signal to determine whether a printer is capable of bidirectional data transmission and remotely setting the printer operating environment accordingly; Masaaki Hibino, 395/866, 828, 834, 853, 882 [IMAGE AVAILABLE]
5. 5,680,645, Oct. 21, 1997, System for executing first and second independently executable programs until each program relinquishes control or encounters real time interrupts; William C. Russell, et al., 395/868, 676 [IMAGE AVAILABLE]
6. 5,666,558, Sep. 9, 1997, Bidirectional parallel protocol having computer indicates to the printer the acceptable data format for data transfer; Jeff D. Pipkins, 395/851; 364/235, 235.7, 260.1, 265.1, 930, 935.3, DIG.1, DIG.2 [IMAGE AVAILABLE]
7. 5,657,448, Aug. 12, 1997, System for an interactive network board remotely configurable by selecting from a plurality of functionality defining software, such as a printer server stored in prom; Robert D. Wadsworth, et al., 395/200.5; 364/238.3, 242.94, 927.97, 927.99, 949.4, 975.1, DIG.1, DIG.2; 395/652, 653 [IMAGE AVAILABLE]
8. 5,652,917, Jul. 29, 1997, System for transmitting and receiving combination of compressed digital information and embedded strobe bit between computer and external device through parallel printer port of computer; Patrick Maupin, et al., 395/888, 500 [IMAGE AVAILABLE]
9. 5,651,114, Jul. 22, 1997, External network adapter for handling normal and alternate channel data over a single bi-directional channel connected to a printer; Peter Stewart Davidson, Jr., 395/200.59; 364/235, 242.95, 930, 940.62, 975.1, DIG.1, DIG.2; 395/114, 200.79, 309 [IMAGE AVAILABLE]
10. 5,647,056, Jul. 8, 1997, Method and apparatus for managing access to a networked peripheral; Lorraine F. Barrett, et al., 395/200.5; 333/24R; 340/825.28; 379/412; 395/110, 113, 115, 116, 117, 200.59, 284, 830 [IMAGE AVAILABLE]

AVAILABLE]

11. 5,636,332, Jun. 3, 1997, Device for controlling printer power down mode for display intensity; Masaaki Hibino, 395/112; 345/147; 364/707 [IMAGE AVAILABLE]

12. 5,623,604, Apr. 22, 1997, Method and apparatus for remotely altering programmable firmware stored in an interactive network board coupled to a network peripheral; William C. Russell, et al., 395/712; 364/276.3, 280.3, 281.9, 962.1, DIG.1, DIG.2; 395/183.14, 200.51, 653; 711/103 [IMAGE AVAILABLE]

13. 5,613,160, Mar. 18, 1997, In an interactive network board, method and apparatus for placing a network peripheral in a default configuration; Andrew J. Kraslavsky, et al., 395/836, 114, 117, 200.8, 828, 835, 839 [IMAGE AVAILABLE]

14. 5,613,096, Mar. 18, 1997, Network protocol sensor; Daniel A. Danknick, 395/500, 651, 831 [IMAGE AVAILABLE]

15. 5,611,046, Mar. 11, 1997, Method and apparatus for interfacing a peripheral to a local area network; William C. Russell, et al., 395/115; 364/DIG.1; 395/828, 835, 839 [IMAGE AVAILABLE]

16. 5,606,671, Feb. 25, 1997, Serial port using non-maskable interrupt terminal of a microprocessor; Robert D. Wadsworth, et al., 395/286, 735, 891 [IMAGE AVAILABLE]

17. 5,581,795, Dec. 3, 1996, System for transmitting and receiving digital information through parallel printer port of computer by using embedding strobe bit in eight bit data of printer port; Patrick Maupin, et al., 395/882; 364/251.3, 260.6, 260.81, 927.95, DIG.1, DIG.2; 395/500 [IMAGE AVAILABLE]

18. 5,568,612, Oct. 22, 1996, Method and apparatus for advertising services of two network servers from a single network node; Lorraine F. Barrett, et al., 395/200.33; 364/DIG.1, DIG.2; 395/200.49 [IMAGE AVAILABLE]

19. 5,557,783, Sep. 17, 1996, Arbitration device for arbitrating access requests from first and second processors having different first and second clocks; Osman O. Oktay, et al., 395/552; 364/228.1, 242.91, 270.4, 271.5, DIG.1; 711/150 [IMAGE AVAILABLE]

20. 5,555,440, Sep. 10, 1996, Parallel interface for connecting data processing devices to one another over bidirectional control lines; Jorg Oppat, 395/892; 364/240, 935.3, DIG.1, DIG.2; 395/306 [IMAGE AVAILABLE]

21. 5,550,997, Aug. 27, 1996, In an interactive network board, a method and apparatus for preventing inadvertent loading of a programmable read only memory; Tony K. Ip, et al., 711/103; 364/965.76, DIG.2; 395/113, 200.52, 309 [IMAGE AVAILABLE]

22. 5,550,957, Aug. 27, 1996, Multiple virtual printer network interface; Peter S. Davidson, Jr., et al., 395/114, 112 [IMAGE AVAILABLE]

23. 5,542,071, Jul. 30, 1996, System for determining communication speed of parallel printer port of computer by using start timer and stop timer commands within data combined with embedded strobe; Patrick Maupin, et al., 395/500; 364/242.1, 251.4, 271.5, DIG.1; 395/557 [IMAGE AVAILABLE]

24. 5,537,626, Jul. 16, 1996, Apparatus for coupling printer with LAN to control printer operation by transferring control parameters, printer status data and printer configuration data between printer and LAN; Andrew J. Kraslavsky, et al., 395/828; 364/235, 284.4, 930, DIG.1, DIG.2; 395/200.58, 835, 839 [IMAGE AVAILABLE]
25. 5,537,550, Jul. 16, 1996, Interactive network board for logging peripheral statistics with logging level commands; William C. Russell, et al., 395/200.54; 364/264.4, 264.6, 944.9, DIG.1, DIG.2; 395/184.01, 200.8, 835 [IMAGE AVAILABLE]
26. 5,530,862, Jun. 25, 1996, In an interactive network board, method and apparatus for loading independently executable modules in prom; Robert D. Wadsworth, et al., 395/651; 364/244.6, 280.2, 281.9, DIG.1 [IMAGE AVAILABLE]
27. 5,507,003, Apr. 9, 1996, Parallel interface protocol for bidirectional communications between computer and printer using status lines for transmitting data during a reverse channel operation; Jeff D. Pipkins, 395/851; 364/235, 235.7, 260.1, 265.1, 930, 935.3, DIG.1, DIG.2; 395/823 [IMAGE AVAILABLE]
28. 5,477,476, Dec. 19, 1995, Power-conservation system for computer peripherals; David J. Schanin, et al., 395/750.06; 364/273, 273.1, 273.2, 273.3, 273.5, 492, DIG.1 [IMAGE AVAILABLE]
29. 5,438,528, Aug. 1, 1995, Method and apparatus for testing an interactive network board in a local area network (LAN).; H. Brad Emerson, et al., 364/580, 481; 370/241, 245; 371/20.1; 395/185.09, 200.54 [IMAGE AVAILABLE]
30. 5,425,135, Jun. 13, 1995, Parallel interface for printer; Tetsuro Motoyama, et al., 395/114, 101 [IMAGE AVAILABLE]
31. 5,323,393, Jun. 21, 1994, Method and apparatus for obtaining and for controlling the status of a networked peripheral; Lorraine F. Barrett, et al., 370/449; 340/825.22 [IMAGE AVAILABLE]
32. 5,239,627, Aug. 24, 1993, Bi-directional parallel printer interface; James L. Beck, et al., 395/892 [IMAGE AVAILABLE]
33. 5,220,659, Jun. 15, 1993, System for matching data recovery time between different devices by extending a cycle upon detecting end of cycle; Ronald J. Larson, et al., 395/500; 364/926.9, 926.91, 927.92, 927.93, 927.94, 927.95, 928, 940, 941, 942, 942.8, 949, 949.1, 950, 950.2, 950.4, 950.5, 952, 952.1, DIG.2; 395/287, 309, 557 [IMAGE AVAILABLE]
34. 5,193,008, Mar. 9, 1993, Interleaving vertical pixels in raster-based laser printers; Allen L. Frazier, et al., 358/298; 347/254 [IMAGE AVAILABLE]
35. 5,134,495, Jul. 28, 1992, Resolution transforming raster-based imaging system; Allen L. Frazier, et al., 358/298; 347/254; 358/296, 456 [IMAGE AVAILABLE]
36. 5,123,089, Jun. 16, 1992, Apparatus and protocol for local area network; Michael S. Beilinski, et al., 395/200.67; 364/234, 234.3, 235, 235.7, 236.2, 237.2, 237.4, 237.7, 238.5, 239, 239.7, 240, 240.1, 240.8, 240.9, 241, 241.7, 241.9, 242.6, 242.7, 242.94, 242.95, 259, 259.4, 264, 264.2, 265, 265.1, 266.3, 270, 270.1, 284, 284.1, 284.2, 284.3, 284.4, DIG.1 [IMAGE AVAILABLE]
37. 4,999,654, Mar. 12, 1991, Image forming system; Fumitaka Maruo, et al.,

- 347/225, 129, 900 [IMAGE AVAILABLE]
38. 4,733,310, Mar. 22, 1988, Paper sheet and envelope feeder apparatus; Ludwig J. Kapp, et al., 358/300; 399/371 [IMAGE AVAILABLE]
39. 4,716,543, Dec. 29, 1987, Terminal device for editing document and communicating data; Toshiya Ogawa, et al., 707/205; 364/926.5, 926.7, 926.93, 928.1, 928.2, 930.7, 939, 939.5, 942.8, 943.1, 943.43, 948.11, 948.3, 948.32, 948.4, 948.6, DIG.2 [IMAGE AVAILABLE]
40. 4,651,278, Mar. 17, 1987, Interface process for an all points addressable printer; Alexander Herzog, et al., 395/117; 364/926.9, 930, 930.4, 931, 931.4, 935, 935.2, 937, 939, 939.3, 940.8, 943, 943.1, 943.9, 944.7, 946.2, 948.1, 957, 957.1, 957.3, 961.2; 400/61, 76 [IMAGE AVAILABLE]
41. 4,452,136, Jun. 5, 1984, Printer subsystem with dual cooperating microprocessors; William W. Boynton, et al., 101/93.05; 364/926.9, 926.93, 927.2, 927.5, 927.8, 927.92, 927.98, 928, 930, 930.4, 931, 931.4, 931.41, 931.49, 937, 942.8, 943.9, 948.3, DIG.2; 395/112, 114; 400/70, 224, 225, 616.1, 656 [IMAGE AVAILABLE]
42. 4,434,419, Feb. 28, 1984, Cursor control circuit for plural displays for use in a word processing system; Robert A. Couper, et al., 345/2, 157; 400/83 [IMAGE AVAILABLE]
43. 4,422,070, Dec. 20, 1983, Circuit for controlling character attributes in a word processing system having a display; Robert A. Couper, et al., 345/141, 194 [IMAGE AVAILABLE]
44. 4,419,736, Dec. 6, 1983, Teleprinter terminal; Gay A. Christensen, et al., 364/710.13, 919.5, 926.1, 926.2, 926.7, 926.9, 926.91, 927.8, 928, 928.1, 928.2, 928.4, 928.5, 928.6, 929, 930, 930.4, 930.7, 931.4, 931.47, 932.8, 933.9, 935, 935.2, 935.3, 935.4, 935.45, 935.46, 935.6, 939, 939.5, 940, 940.1, 940.5, 940.81, 941, 942, 942.3, 942.4, 942.5, 942.8, 943.9, 944.9, 945.6, 947, 947.5, 948.1, 949, 949.1, 950, 950.1, 950.4, 958, 958.3, 964, 964.1, DIG.2 [IMAGE AVAILABLE]
45. 4,398,264, Aug. 9, 1983, Circuit to enable foreground and background processing in a word processing system with circuits for performing a plurality of independently controlled functions; Robert A. Couper, et al., 707/530; 364/926.7, 926.9, 926.93, 927.2, 927.3, 927.4, 927.5, 927.61, 927.8, 927.92, 927.95, 928, 928.2, 929, 929.4, 930, 930.3, 931, 931.4, 931.44, 935, 935.2, 935.3, 935.4, 935.42, 936, 939, 939.3, 940, 940.1, 940.2, 940.4, 942, 942.1, 942.3, 942.4, 942.7, 943, 943.1, 943.43, 943.44, 948.1, 949, 949.1, 952, 952.1, 959.1, 960, 960.2, 964.9, 965, 965.76, 965.8, 968, DIG.2 [IMAGE AVAILABLE]
46. 4,398,246, Aug. 9, 1983, Word processing system employing a plurality of general purpose processor circuits; John K. Frediani, et al., 707/531; 364/222.2, 225, 225.6, 225.7, 226.1, 228.1, 228.3, 228.4, 228.5, 228.7, 228.9, 229, 229.2, 230, 230.1, 230.2, 230.4, 232.7, 232.9, 234, 234.2, 235, 235.7, 236, 236.2, 237.2, 237.3, 237.5, 238, 238.3, 238.4, 239, 239.7, 241.9, 242.1, 242.3, 242.6, 242.7, 242.91, 246, 246.4, 256.8, 259, 259.4, 260.4, 260.9, 263, 264, 264.6, 265, 265.1, 268.9, 270, 270.4, 271, 271.2, 271.6, 271.8, 273.2, 280, 280.6, 281.3, 281.7, 285, 285.3, DIG.1 [IMAGE AVAILABLE]
47. 4,393,377, Jul. 12, 1983, Circuit for controlling information on a display; Robert A. Couper, et al., 345/127 [IMAGE AVAILABLE]
48. 4,392,197, Jul. 5, 1983, Print control circuit for a word processing

system; Robert A. Couper, et al., 707/531; 364/222.81, 222.82, 225, 225.6, 225.8, 230.6, 232.93, 234, 234.2, 234.4, 235, 235.7, 237.2, 237.3, 237.5, 238, 238.3, 242, 242.3, 242.31, 242.6, 242.91, 244, 246.91, 252, 259, 259.9, 926.9, 926.93, 927.2, 927.4, 927.5, 927.8, 927.92, 927.95, 927.99, 928, 928.1, 929, 929.4, 929.5, 929.61, 930, 931, 931.1, 931.44, 932.8, 935, 935.2, 935.4, 935.42, 936, 939, 939.3, 942.8, 943, 943.1, 943.2, 943.3, 947, 947.2, 948, 948.4, 952, 952.1, 962, 962.1, 964, 964.4, 964.6, 965, 965.76, 975.2, DIG.1, DIG.2 [IMAGE AVAILABLE]

49. 4,387,424, Jun. 7, 1983, Communications systems for a word processing system employing distributed processing circuitry; John K. Frediani, et al., 395/200.55; 364/222.81, 222.82, 223, 224, 224.1, 225.6, 225.7, 225.8, 228.5, 229, 229.2, 229.4, 230, 230.1, 230.3, 230.4, 231.4, 231.6, 232.7, 232.8, 232.9, 234, 234.1, 234.2, 234.3, 234.4, 235, 235.2, 235.3, 236, 236.2, 237.2, 237.3, 237.4, 238, 238.3, 238.4, 238.5, 239, 239.1, 239.2, 239.6, 239.7, 240, 240.1, 240.2, 242.3, 242.31, 242.6, 242.91, 244, 244.6, 244.7, 246, 246.2, 246.3, 246.91, 248.1, 251, 251.4, 252, 259, 259.4, 259.9, 260.4, 260.9, 262.4, 262.8, 270, DIG.1; 395/200.31 [IMAGE AVAILABLE]

50. 4,353,653, Oct. 12, 1982, Font selection and compression for printer subsystem; Lee T. Zimmerman, 400/70; 364/919.5, 920, 926.7, 926.9, 927.83, 930, 930.4, 931, 931.5, 935, 935.2, 935.5, 937, 938, 938.4, 940, 940.1, 942.3, 942.5, 943, 943.1, 943.44, 943.5, 943.9, 944.9, 948.1, 948.2, 949, 949.3, 957, 957.1, 962, 962.4, 963, 963.3, 964, 964.1, DIG.2; 400/55, 109, 110, 171, 225, 248, 616.1 [IMAGE AVAILABLE]

51. 4,353,298, Oct. 12, 1982, Partial line turnaround for printers; Gregory N. Baker, et al., 101/93.05; 364/920, 926.1, 926.3, 926.9, 927.83, 930, 930.7, 937, 939, 939.2, 939.4, 940, 940.1, 942.3, 942.5, 943, 943.44, 943.5, 943.9, 944.9, 948.1, 948.2, 949, 957, 957.1, 957.8, 963, 963.3, DIG.2; 400/70, 225, 323, 616.1 [IMAGE AVAILABLE]

52. 4,308,579, Dec. 29, 1981, Multiprocessor parcel postage metering system having serial data bus; Daniel F. Dlugos, 705/407; 364/222.2, 225, 226.8, 228.4, 228.5, 235, 237.2, 240, 240.1, 240.8, 240.9, 241, 256, 256.1, 259, 259.5, 260, 260.1, 262, 262.2, 265, 265.1, 267, 267.5, 271, 271.2, 284, 284.3, DIG.1; 395/185.02 [IMAGE AVAILABLE]

53. 4,304,497, Dec. 8, 1981, Detection of multiple emitter changes in a printer subsystem; Barry R. Cavill, et al., 400/583; 364/926, 926.9, 927.2, 927.5, 927.8, 928, 928.2, 929.3, 929.4, 930, 930.4, 931, 931.4, 937, 942.8, 943.9, 947, 947.2, 948.2, 948.3, 959.1, 964, 965, 965.4, 965.5, DIG.2; 400/61, 616.1 [IMAGE AVAILABLE]

54. 4,279,199, Jul. 21, 1981, Print head image generator for printer subsystem; Abelardo D. Blanco, et al., 101/93.05; 364/926, 926.9, 927.2, 927.5, 927.8, 927.83, 928, 929.3, 930, 930.4, 931, 931.4, 935, 935.2, 935.5, 937, 939, 939.6, 942.7, 942.8, 943, 943.9, 945.5, 945.6, 947, 947.4, 951.1, 951.4, 959.1, 964, 965, 965.4, 965.5, DIG.2; 400/57, 124.02, 225, 616.2 [IMAGE AVAILABLE]

55. 4,261,039, Apr. 7, 1981, Microprocessor controlled positioning system; Gregory N. Baker, et al., 395/105; 101/93.05; 318/594; 364/167.01; 400/57, 70, 225, 583.4, 616.1 [IMAGE AVAILABLE]

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